

SMAP Early Adopters†, SMAP project contacts, and applied research topics. Many Early Adopters cross multiple applications.	
Early Adopter PI and institution SMAP Contact	Applied Research Topic
<b>Weather and Climate Forecasting</b>	
* <b>Stephane Bélair</b> , Meteorological Research Division, Environment Canada (EC); SMAP Contact: <b>Stephane Bélair</b>	Assimilation and impact evaluation of observations from the SMAP mission in Environment Canada's Environmental Prediction Systems
* <b>Lars Isaksen and Patricia de Rosnay</b> , European Centre for Medium-Range Weather Forecasts (ECMWF); SMAP Contact: <b>Eni Njoku</b>	Monitoring SMAP soil moisture and brightness temperature at ECMWF
* <b>Xiwu Zhan, Michael Ek, John Simko and Weizhong Zheng</b> , NOAA National Centers for Environmental Prediction (NCEP), NOAA National Environmental Satellite Data and Information Service (NOAA-NESDIS); SMAP Contact: <b>Randy Koster</b>	Transition of NASA SMAP research products to NOAA operational numerical weather and seasonal climate predictions and research hydrological forecasts
* <b>Michael Ek, Marouane Temimi, Xiwu Zhan and Weizhong Zheng</b> , NOAA National Centers for Environmental Prediction (NCEP), NOAA National Environmental Satellite Data and Information Service (NOAA-NESDIS), City College of New York (CUNY); SMAP Contact: <b>Chris Derksen</b>	Integration of SMAP freeze/thaw product line into the NOAA NCEP weather forecast models
* <b>John Galantowicz</b> , Atmospheric and Environmental Research, Inc. (AER); SMAP Contact: <b>John Kimball</b>	Use of SMAP-derived inundation and soil moisture estimates in the quantification of biogenic greenhouse gas emissions
◇ <b>Jonathan Case, Clay Blankenship and Bradley Zavodsky</b> , NASA Short-term Prediction Research and Transition (SPoRT) Center; SMAP Contact: <b>Dara Entekhabi</b>	Data assimilation of SMAP observations, and impact on weather forecasts in a coupled simulation environment
◇ <b>Steven Quiring</b> , <i>Texas A&amp;M University</i> ; SMAP Contact: <b>Dara Entekhabi</b>	Hurricane power outage prediction
<b>Droughts and Wildfires</b>	
* <b>Jim Reardon and Gary Curcio</b> , US Forest Service (USFS); SMAP Contact: <b>Dara Entekhabi</b>	The use of SMAP soil moisture data to assess the wildfire potential of organic soils on the North Carolina Coastal Plain
* <b>Chris Funk, Amy McNally and James Verdin</b> , USGS & UC Santa Barbara; SMAP Contact: <b>Susan Moran</b>	Incorporating soil moisture retrievals into the FEWS Land Data Assimilation System (FLDAS)
◇ <b>Brian Wardlow and Mark Svoboda</b> , Center for Advanced Land Management Technologies (CALMIT), National Drought Mitigation Center (NDMC); SMAP Contact: <b>Narendra Das</b>	Evaluation of SMAP soil moisture products for operational drought monitoring: potential impact on the U.S. Drought Monitor (USDM)
◇ <b>Uma Shankar</b> , The University of North Carolina at Chapel Hill – Institute for the Environment; SMAP Contact: <b>Narendra Das</b>	Enhancement of a bottom-up fire emissions inventory using Earth observations to improve air quality, land management, and public health decision support
◇ <b>Javier Fochesatto</b> , University of Alaska; SMAP Contact: <b>John Kimball</b>	Soil moisture in Alaskan ecosystem soils
◇ <b>Amir AghaKouchak</b> , University of California, Irvine; SMAP Contact: <b>Dara Entekhabi</b>	Integrating SMAP into the Global Integrated Drought Monitoring and Prediction System: Toward near real-time agricultural drought monitoring
◇ <b>Renato D'Auria</b> , ALTEC S.p.A; SMAP Contact: <b>Randy Koster</b>	Satellite soil moisture accuracy evaluation for hydrological operative forecasting (SMAHF)
◇ <b>Rong Fu</b> , University of Texas; SMAP contact: <b>Randy Koster</b>	Using SMAP data to improve drought early warning over Texas and the U.S. Great Plains
<b>Floods and Landslides</b>	
* <b>Fiona Shaw</b> , Willis, Global Analytics; SMAP Contact: <b>Robert Gurney</b>	A risk identification and analysis system for insurance; eQUIP suite of custom catastrophe models, risk rating tools and risk indices for insurance and reinsurance purposes
* <b>Kashif Rashid and Emily Niebuhr</b> , UN World Food Programme; SMAP Contact: <b>Eni Njoku</b>	Application of a SMAP-based index for flood forecasting in data-poor regions
◇ <b>Konstantine Georgakakos</b> , Hydrologic Research Center; SMAP Contact: <b>Narendra Das</b>	Development of a strategy for the evaluation of the utility of SMAP products for the Global Flash Flood Guidance Program of the Hydrologic Research Center
◇ <b>Luca Brocca</b> , Research Institute for Geo-Hydrological Protection, Italian Dept. of Civil Protection; SMAP contact: <b>Dara Entekhabi</b>	Use of SMAP soil moisture products for operational flood forecasting: data assimilation and rainfall correction
◇ <b>Jennifer Jacobs</b> , University of New Hampshire; SMAP contact: <b>Narendra Das</b>	Satellite enhanced snowmelt flood predictions in the Red River of the North Basin

♦ <b>Huan Wu, Xiwu Zhan, and Robert F. Adler</b> , University of Maryland, NASA Jet Propulsion Laboratory (JPL), and NOAA/NESDIS/STAR; SMAP contact: <b>Seungbum Kim</b>	Improving the Global Flood Monitoring System (GFMS) with GPM precipitation, SMAP soil moisture and surface water mask information
♦ <b>G. Robert Brakenridge</b> , Dartmouth Flood Observatory, University of Colorado; <b>SMAP contact: Seungbum Kim</b>	Use of SMAP data for early detection of inland flooding
<b>Agricultural Productivity</b>	
* <b>Catherine Champagne</b> , Agriculture and Agri-Food Canada (AAFC); SMAP Contact: <b>Stephane Bélair</b>	Soil moisture monitoring in Canada
* <b>Zhengwei Yang and Rick Mueller</b> , USDA National Agricultural Statistical Service (NASS); SMAP Contact: <b>Wade Crow</b>	US National cropland soil moisture monitoring using SMAP
* <b>Amor Ines and Stephen Zebiak</b> , International Research Institute for Climate and Society (IRI) Columbia University; SMAP Contact: <b>Narendra Das</b>	SMAP for crop forecasting and food security early warning applications
* <b>Jingfeng Wang, Rafael Bras, Aris Georgakakos and Husayn El Sharif</b> , Georgia Institute of Technology (GT); SMAP Contact: <b>Dara Entekhabi</b>	Application of SMAP observations in modeling energy/water/carbon cycles and its impact on weather and climatic predictions
* <b>Curt Reynolds</b> , USDA Foreign Agricultural Service (FAS); SMAP Contact: <b>Wade Crow</b>	Enhancing USDA's global crop production monitoring system using SMAP soil moisture products
♦ <b>Alejandro Flores</b> , Boise State University; SMAP Contact: <b>Dara Entekhabi</b>	Data fusion and assimilation to improve applications of predictive ecohydrologic models in managed rangeland and forest ecosystems
♦ <b>Barbara S. Minsker</b> , University of Illinois and sponsored by John Deere Inc.; SMAP Contact: <b>Wade Crow</b>	Comprehensive, large-scale agriculture and hydrologic data synthesis
♦ <b>Lynn J. Torak</b> , U.S. Geological Survey, Georgia Water Science Center; SMAP contact: <b>Dara Entekhabi and Vanessa Escobar</b>	Downscaling SMAP soil-moisture data to improve crop production and efficient use of energy and water resources and to assess water availability in the Apalachicola-Chattahoochee-Flint River basin
♦ <b>Kamal Labbassi</b> , Faculty of Sciences, MARSE, El Jadida, Morocco; SMAP contact: <b>Susan Moran</b>	Hydrologic models and remote sensing data to assess indicators for irrigation performance monitoring in Morocco
♦ <b>Shibendu Ray</b> , Mahalanobis National Crop Forecast Centre, New Delhi, India; SMAP contact: <b>Narendra Das</b>	Evaluation of SMAP soil moisture products for drought assessment under National Agricultural Drought Assessment and Monitoring System (NADAMS) of India
♦ <b>Niladri Gupta</b> , Tocklai Tea Research Institute; SMAP contact: <b>Susan Moran</b>	Crop management advisory service using SMAP in tea growing regions of northeast India
<b>Human Health</b>	
* <b>Hosni Ghedira</b> , Masdar Institute, UAE; SMAP Contact: <b>Dara Entekhabi</b>	Estimating and mapping the extent of Saharan dust emissions using SMAP-derived soil moisture data.
* <b>Kyle McDonald and Don Pierson</b> , City College of New York (CUNY) and CREST Institute, New York City Dept. of Environmental Protection; SMAP Contact: <b>Erika Podest</b>	Application of SMAP freeze/thaw and soil moisture products for supporting management of New York City's potable water supply
♦ <b>James Kitson, Andrew Walker and Cameron Hamilton</b> , Yorkshire Water, UK; SMAP Contact: <b>Robert Gurney</b>	Using SMAP L-2 soil moisture data for added value to the understanding of land management practices and its impact on water quality
♦ <b>Luigi Renzullo</b> , Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia; SMAP Contact: <b>Jeff Walker</b>	Preparing the Australian Water Resources Assessment (AWRA) system for the assimilation of SMAP data
♦ <b>David DuBois</b> , New Mexico State University; <b>SMAP Contact: Dara Entekhabi</b>	Tracking and assessment of dust storm events in Southwestern US
<b>National Security</b>	
* <b>John Eylander and Susan Frankenstein</b> , U.S. Army Engineer Research and Development Center (ERDC) Cold Regions Research and Engineering Laboratory (CRREL); SMAP Contact: <b>Steven Chan</b>	U. S. Army ERDC SMAP adoption for USACE civil and military tactical support
* <b>Gary McWilliams, George Mason, Li Li, Andrew Jones and Maria Stevens</b> , Army Research Laboratory (ARL); U.S. Army Engineer Research and Development Center (ERDC) Geotechnical and Structures Laboratory (GSL); Naval Research Laboratory (NRL); and Colorado State University (CSU); SMAP Contact: <b>Steven Chan</b>	Exploitation of SMAP data for Army and Marine Corps mobility assessment
♦ <b>Kyle McDonald</b> , City College of New York (CUNY); SMAP Contact: <b>Simon Yueh</b>	Integration of SMAP datasets with the NRL environmental model for operational characterization of cryosphere processes across the north polar land-ocean domain

◇ <b>Georg Heygster</b> , Institute of Environmental Physics, University of Bremen, Germany; SMAP Contact: <b>Simon Yueh</b>	SMAP-Ice: Use of SMAP observations for sea ice remote sensing
◇ <b>Lars Kaleschke</b> , Institute of Oceanography, University of Hamburg; SMAP Contact: <b>Simon Yueh</b>	SMOS to SMAP migration for cryosphere and climate application
◇ <b>Jerry Wegiel</b> , Headquarters Air Force Weather Agency; SMAP contact: <b>Peggy O'Neill</b>	Optimization of NASA's Land Information System (LIS) at HQ Air Force Weather Agency (AFWA)
◇ <b>Matthew Arkett</b> , Canadian Ice Service; SMAP contact: <b>Simon Yueh</b>	Pre-launch evaluation of SMAP L-band SAR data for operational sea ice monitoring
◇ <b>Derek Ward</b> , Lockheed Martin Missiles and Fire Control; SMAP contact: <b>Steven Chan</b>	Manned and unmanned vehicle ground mobility predictions and route selection
◇ <b>David Keith</b> , U.S. National Ice Center, Naval Research Laboratory; SMAP contact: <b>Simon Yueh</b>	NIC cryospheric investigations in support of NASA ROSES arctic sea ice applications of geodetic imaging
◇ <b>Christopher Jackson</b> and <b>Frank Monaldo</b> , NOAA NESDIS Center for Satellite Applications and Research (STAR); SMAP Contact: <b>Simon Yueh</b>	Ocean surface wind and sea ice measurements derived from SMAP SAR data
<b>General</b>	
◇ <b>Srini Sundaram</b> , Agrisolum Limited, UK; SMAP Contact: <b>Robert Gurney</b>	Application of SMAP data products in Agrisolum - A bigdata social agritech platform
* <b>Rafael Ameller</b> , StormCenter Communications, Inc.; SMAP Contact: <b>Randy Koster</b>	SMAP for enhanced decision making
◇ <b>Joey Griebel</b> , Exelis Visual Information Solutions; SMAP Contact: <b>Barry Weiss</b>	Utilization of SMAP Products in ENVI, IDL and SARscape - Products L1 to L4
◇ <b>Kimberly Peng</b> , Africa Soil Information Service (AFSIS) and Center for International Earth Science Network (CIESIN); SMAP contact: <b>Eric Wood</b>	Input generator for digital soil mapping
◇ <b>Tyler Erickson</b> and <b>Rebecca Moore</b> , Google Earth Engine, Google, Inc.; SMAP contact: <b>Narendra Das</b> and <b>Amanda Leon</b>	Making SMAP data products available in the Google Earth Engine Analysis Platform
◇ <b>Jeff Morissette</b> , USGS and DOI North Central Climate Science Center, the National Drought Mitigation Center; SMAP Contact: <b>John Kimball</b>	Evaluation of SMAP data for incorporation into the USGS's Software for Assisted Habitat Modeling
◇ <b>Benjamin White</b> , Integra, LLC; SMAP Contact: <b>John Kimball</b>	Application of SMAP L4_C and related products to REDD+ monitoring reporting and validation (MRV)
<p><b>NOTES:</b></p> <p>† <i>Early Adopters</i> are defined as those groups and individuals who have a direct or clearly defined need for SMAP-like soil moisture or freeze/thaw data, and who are planning to apply their own resources (funding, personnel, facilities, etc) to demonstrate the utility of SMAP data for their particular system or model. The goal is to accelerate the use of SMAP products after launch by engaging in applied research that would enable integration of SMAP data in applications. This research would promote understanding of how SMAP data products can be scaled and integrated into policy, business and management activities to improve decision- making efforts.</p> <p>* <i>Early Adopters selected in 2011-2012</i> agreed to engage in pre-launch research that will enable integration of SMAP data after launch in their application, complete the project with quantitative metrics prior to launch, and take a lead role in SMAP applications research, meetings, workshops, and related activities.</p> <p>◇ <i>Early Adopters selected from 2013 forward</i> agreed to engage in pre-launch research that will enable integration of SMAP data after launch in their application, and to provide feedback to the SMAP project upon request concerning their experience in using the data.</p>	